

## **ARRAYED WAVEGUIDE GRATINGS WITH IMPROVED TRANSMISSION EFFICIENCY**

### **ABSTRACT OF THE DISCLOSURE**

5       An arrayed waveguide grating (AWG) with improved transmission  
efficiency includes an input  $P \times M$  star coupler, an output  $M \times Q$  star coupler,  
and  $M$  waveguides of unequal length connecting the input and output star  
couplers. A novel method used to determine the optimum position of the ports  
ensures that the maximum frequency deviation between the signal frequency  
10   and the center of the corresponding transmission passband is minimal for all  
possible connections among input and output ports.